IRANIAN SOCIETY of CRYSTALLOGRAPHY and MINERALOGY

Vol. 23, No. 1, Spring 1394/2015

IRANIAN JOURNAL of CRYSTALLOGRAPHY and MINERALOGY

Petrography and geochemistry of dolomites from Derinjal Formation in east and southeast of Zarand- NW Kerman

H. Bavi, A. Mahboubi*, R. Moussavi-Harami

Department of Geology, Faculty of Science, Ferdowsi University of Mashhad

(Received: 29/9/2013, in revised form: 22/2/2014)

Abstract: Carbonate deposits of Derinjal Formation (Late Cambrian) studied in three stratigraphic sections (east of Zarand) and is composed of dolostone, stromatolitic boundstone and sandstone with interbeded thin layers of marls. Based on petrography evidences (grain size and fabric) and geochimecal data (δ 18O and δ 13C isotopes and elemental analysis such as Fe, Mn, Na,Sr, Ca and Mg), four types of dolomite were identified that forms as primary and secondary. The primary dolomite (D1) is fine crystal with primary sedimentary structure such as palanar and cross laminations while the secondary dolomites are mostly replacement as fine (D2-S) and medium crystal (D2-L) size as well as pore-filling or fractures (D3). On the basis of these data, dolomites have formed pencontemporaneous with deposition and during early diagenetic history to deep burial conditions. Elemental analysis as well as increasing trend of Sr and Na versus Mg and decreasing trend of Fe and Mn versus Mg from D1 to D3 associated with decreasing of δ18O from fine to coarse crystalline dolomites reflect the increasing alteration and reduction as result of deep burial.

Keywords: *dolomite; petrography; geochemistry; Late Cambrian; Zarand.*

متن فارسی اصل مقاله از صفحه ۱۵۹ تا ۱۷۲ در این شماره به چاپ رسیده است.

*Corresponding author, Tel-fax: (051) 8797275, E-mail: mahboubi@um.ac.ir